
W6VIO Calling



Jet Propulsion Laboratory Amateur Radio Club
PO Box 842, La Canada CA 91012-0842

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Secretary:	Rob Smith, W6GRV	3-7937	W6JPL Trustee:	Eric Archer, N6CV	4-7350
Treasurer:	Chuck Sarture, KG6NF	4-2706	WR6JPL Trustee:	Jim Lux, W6RMK	4-2075
Director at Large:	Jim Marr, AA6QI	626-794-9805	WR6AZN Trustee:	Bill Wood, W6FXJ	760-256-9576

Upcoming Events:

- **Emergency Communications Net:** Every Monday at Noon, on WR6JPL 224.08/(-)/156.7 & 445.20/(-)/103.5, or WR6AZN 223.96/(-)/156.7 on Table Mountain.
 - **JPLARC Regular Membership meeting:** Second working Friday every month from Noon to 1pm in 180-703C. Call-in: 818-354-4044 ID-number: **997 183 539** (without the spaces). Slides (if any) broadcast via JPL WebEx (same ID-number). **Next is June 19th. Guest speaker: Jim Lux W6RMK discussing FINDER (Finding Individuals for Disaster and Emergency Response) that was recently used to save lives in Nepal.**
 - **JPLARC Board of Directors (BOD) meeting:** Normally, the first working Friday, every month, from Noon to 1pm in 180-703C. **Next is July 3rd.** Call-in: 818-354-4044 ID-number: **997 183 539** (without the spaces).
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Field Day 2015

By Jim Marr AA6QI

Field Day 2015 is coming up next weekend (June 27th & 28th). The JPLARC is joining the Pasadena Radio Club (PRC) and the Caltech ARC (CITARC) again this year at the Art Center College south parking lot on Lita Street, just across the 210 from JPL.

We will be operating class 6A (six transmitters on non-commercial power) under the PRC W6KA call sign, as we did last year. There will be phone stations on 75m/10m, 40m, 20m, and 15m; one CW station operating on 80m, 40m, 20m, 15m and 10m; a satellite station; and a VHF station handling NTS traffic. Opportunities to operate are being sent out via SignUpGenius and you are encouraged to use the

SignUpGenius links to schedule operating time on the various stations. Even if you don't get a chance to sign up in advance, there should be plenty of opportunity to take a turn either logging or operating any of the stations, so stop by anyway and join the fun.

The JPLARC and CITARC are jointly providing the CW station again this year. Signup for setup/tear-down and operating time slots via the SignUpGenius links sent to the JPLARC email exploder. Setup begins at 7am on Saturday the 27th with the goal of being ready to operate by the nominal start of operations at 11am. Operation is for 24 hours, ending Sunday at 11am, after which we take everything down.

A Field Day flier was sent out to the email exploder last week that includes maps to the Art Center parking lot Field Day site.

Information about Field Day, including full Field Day ARRL rules can be found at <http://www.arrl.org/field-day>.

Regular Meeting May 22nd

By Rob Smith W6GRV and Jim Marr AA6QI

Present were: Jonathon Cameron KF6FTA, Bob Cesarone WA9JIB, Bob Dengler† NO6B, Courtney Duncant† N5BF, Steve Noland† WA6KLC, Stan Sander† N6MP, Chuck Sarture†* KG6NF, Rob Smith†* W6GRV, Lew Soloway† KK6QJE, Jan Tarsala WB6VRN, Steve Townes†*

WB4ILW, Marty Woll N6VI, Harry Woo KN6MG. On the Phone: Dayton Jones K6DJ, Mark Lysek† AG6TD, Jim Marr* AA6QI, Mike Tope W4EF, Walt Mushagiant K6DNS, Henry Woo KN6MG.

Note: † indicates a 2015 regular voting member (i.e., JPL/Caltech/Retired & 2015 dues paid), and * Indicates a BOD member. For a regular meeting quorum, the JPLARC Bylaws require a majority of the BOD (four or more) and at least five other regular members. We had four BOD members, seven other regular members and eight non-members, so we **did** have a quorum.

President Steve Townes opened the meeting with the usual introductions around the room.

Secretary's Report: Membership (as of May 9th) 41 total club members; 36 voting members; ARRL membership 77.8% (this is the percentage of licensed & voting members who are also ARRL members).

Treasurer's Report: Didn't spend anything last month. As we get to outfitting the new shack, there will be expenses. The April balance in the club's Caltech Credit Union account was \$4,789.19.

Next Regular Club Meeting and Speakers: Steve, Rob & Chuck need to confirm our speaker for the June 19th meeting. Steve may not be there so may need to have someone else run the meeting.

Field Day 2015: The Pasadena Radio Club will do Field Day at the Pasadena Art Center again this year and are looking to the JPLARC and CITARC for support similar to last year. Jim Marr has committed the JPLARC to provide a CW station again this year. Jim Marr, Jorge Gonzalez and Mike Tope are the only volunteers so far for Field Day 2015 support, so we need your help. Mike Tope will coordinate with the CITARC. Still need an active JPL employee member to coordinate the JPL contribution (Jim will mentor and assist).

Guest Speaker: Marty Woll N6VI, (Figure 1) Vice-Director for the ARRL's Southwestern Division, which includes the Arizona, Los Angeles, Orange, San Diego and Santa Barbara Sections, gave a talk titled: "The Future of Amateur Radio." Further information about Marty and many of Marty's other talks can be found on his web site <http://n6vi.com/>. [ed: Sorry, no slides from this talk, Marty just spoke from his notes, but what follows is from Jim's notes taken during Marty's talk.]

The Future of Amateur Radio, Marty Woll, N6VI.

Marty began by asking how many had been licensed for more than 25 years. Many had. Many came into ham radio during high school or earlier, like Marty did, probably came in through the HF route, and can see how a lot of things have changed. The League (i.e., ARRL) was just something that you joined when you got your license and Marty didn't realize the scope and

depth of what goes on there, at HQ and through volunteers in the field until after he got elected about nine years ago.

Demographics: Worldwide, there are something over two million licensed hams but, as best we can tell, that number is declining. The International Amateur Radio Union, an association of national associations (ARRL, JARL, RSGB, and so on), have stopped updating their worldwide numbers, probably because they don't want to know what the result is.

In Region 1, which is Europe and Africa, back in 2000, there were about 440,000 and today its in the mid-300,000's, so it's on a slight downward trend. In Japan, numbers have declined from about 1.3 million at the peak to under half a million today, in probably 15 years. That's pretty significant and we can't even be sure how good that number is since in Japan you have lifetime licenses, so unless someone reports a silent key, they're still on the roles.

In the U.S. the trend is somewhat different. Back in 1967 when Marty was licensed there were about 300,000 hams in the U.S.. Now it's around 750,000, so the raw numbers look pretty good. But for a while we had those no-code licenses that were expiring faster than they were being replaced, though we've stayed that trend now.

The ham population overall is aging. A lot of the new hams that we're getting now are coming in as adults and they're coming in for different reasons. For many of us, the technology was an attraction back in the '60's, '70's and before because there weren't many alternatives for playing with communications or electronics.



Figure 1: Guest speaker Marty Woll N6VI

A lot of the folks coming into ham radio today are not coming in because of the technology. In fact, many are coming in spite of the technology. They want to use it as a tool. They do CERT (Community Emergency Response Team), neighborhood watch, off-roading, wilderness camping, long distance sailing, or something. They want a reliable means of communication and somebody's told them that this is the way to do it.

So they get a license manual, look at a bunch of indecipherable questions, memorize the answers because the question pool is public, go take the test, then tell the shop "sell me something that will do this", and that's it. Many of them never get beyond that. They don't look to see what else there is in ham radio so they don't discover what old timers know, that "if you ever get bored in ham radio, you're not looking hard enough", which Marty can certainly attest to.

So, of the gee-whiz factor that we had when Marty and many of us had as kids, talking to people in foreign countries, that's kind of gone because now anybody who can type .ru can talk to somebody in Russia and so on, so that attraction is gone.

The demographics are certainly a challenge.

Spectrum is another challenge.

Back when ham radio got started, we got what nobody else wanted. They didn't know what to do with it. To some extent, it was everything above the AM broadcast band. As we hams showed that these frequencies could be useful, they said oh, we're going to take those.

Now fortunately, if you look at our allocations, we have little slices from down low, and we're working on even lower, to well up in the microwave and even to light. So we have some bits of these various pieces of spectrum, each of which has its own characteristics and its own uses. But we certainly don't have the carte blanche that we had decades ago and we're seeing continuing pressure on the spectrum that we do have; threats that come from a variety of places.

The National Broadband Plan, which has now been approved by two administrations, is hunting for at least 500 MHz of continuous spectrum between 300 and 3000 MHz, where hams have a number of bands. Cell phone carriers originally wanted coverage but now need bandwidth because what they're doing now is far different from what it was when they were just putting up towers on mountain tops and passes. Now they need more and more bandwidth, which means they're going to go to higher frequencies so that they can put more of these 'mini towers' at sites down closer to where everybody lives and go to higher frequencies so that they can reuse those frequencies over and over geographically as part of the way to get their bandwidth. So that pressure is really there.

Some national organizations are surveying usage. That's bad for us on its face. If you survey broadcast stations, that's easy, they're on. But, how do you tell who's monitoring a quiet repeater? How do you tell who's listening or even who's transmitting using a high gain dish? Anybody who's not in the line of sight isn't going to know you're there. So much of what we do does not show up in these spectrum surveys. So we have to make sure that people know we're using them and we have to in fact use them.

Commercial users are being forced into narrow band modes in the lower UHF spectrum, so in the short term we've had some equipment come our way that they can't legally use any more because they all have to be narrow band compliant whether they're in public safety, commercial service, or what have you.

Federal budget problems make the sale of spectrum very tempting. We had a problem with HR607 a couple of years ago where they wanted to give a chunk of spectrum in the 700 to 800 MHz range so that all public service and safety folks could use it. But Congress said they had already planned on selling that and had already spent the money they anticipated getting from selling it. So it was suggested that they go look at 430 to 450 MHz since nobody was using that very much, for which the League generated eight or ten thousand letters, made personal visits to Representatives; so that got deferred.

Still, spectrum is valuable. Marty looked at a recent spectrum auction and the numbers for a few hundred kHz were staggering: in the billions. Our bands are worth, Marty estimates, 3 or 4% of the national debt if they were to sell them at that rate. That's the pressure we're up against.

Then there are **Environmental factors**.

We've got noise pollution. It used to be that the big issue was amateurs interfering with other stuff. There's still some of that but now it's even more so with other stuff interfering with amateurs. We had BPL (Broadband over Power Lines) although we've pretty effectively killed that. RFID (Radio Frequency Identification) is showing up everywhere. Touch lamps that use square wave generators and harmonics, almost any 'made in China' consumer goods, any cost cutting step that will bring the price down a few cents they'll do it.

The local governments and neighborhood associations and other private deed restrictions have made it harder and harder to put up effective antennas, whether it's HF or putting something up in the air on the mountains; whatever it is. So the installed base that has made amateur radio such a great resource for the community over time is shrinking. Somebody dies or moves, the tower comes down, and a new one doesn't go up. So

certainly on HF, the installed base is shrinking. VHF is a little easier to get by with that but there are a lot of hams that don't understand that you need to get an antenna of reasonable size up in the air and the rubber thing on your hand held really is not all you need.

The internet appears to have replaced a number of amateur radio functions, not only among youth but also among a lot of hams. Some say: "You know, I don't need to put up an antenna, I'll use echolink." I've never used echolink. No offense to those who use it but it's not ham radio.

Hope: So all these factors paint a pretty bleak picture but there is hope and it lies in the actions that we take collectively and the actions that we take individually.

First, what is the League doing? I keep getting questions all the time at conventions and so on: "Why isn't the League doing something to bring more young people into ham radio?" First, the League is the members: thousands of volunteers and maybe a hundred people at headquarters many of whom don't really have that responsibility.

What are we doing? We're conducting the teachers institutes every year. Competitive applications but all expenses paid. For a week and a half, they learn about robotics, telemetry, amateur radio, all sorts of stuff like tools to bring technology into the classroom, the STEM program, get kids excited. Where teachers have done that, we've seen clubs pop up at the schools, the kids do get excited; they get involved in it. We have the ARISS program, Amateur Radio aboard the International Space Station. I've attended two of these; one out in Riverside and one down in Palos Verdes and, I'll tell you, a kid having a one-on-one Q&A with an astronaut who's up there on the space station - the kids love it, the parents go crazy, the teachers love it. You talk about getting everybody juiced up - that really gets people juiced up. But NASA, with it's budget cuts, is basically stepping back from the direct support of that program and the administration of that is falling on the League and we're hoping that it will actually continue, that they will still have equipment up there and so on.

The ARRL Foundation administers scholarships, some from the League, many from clubs, some from family members who want to honor a former member. They take the money, send out the applications, evaluate the responses. They have a whole group of people who specialize in doing that and administer the whole thing so somebody who wants to set up a scholarship they don't really have to do all of the routine work to do it. These scholarships are geared toward hams, generally already in or headed for college.

Of course, the licensing courses and the training that we have in the public service arena trying to get people active. We have our operating awards and contests. I

hear some people say: "Oh, contests are worthless" but, believe me, they're not. I went once to Dayton where Riley Hollingsworth, K4ZDH, head of FCC enforcement for amateur radio at the time, was talking about various aspects of amateur radio. When he came to contesting, he said: "For those of you who don't like testers, you should take some time to listen to them and learn from them because they're the best operators in the world." I think that's generally true and I've found that a lot of contest operating makes you better at other things in ham radio. To me, everything you do in ham radio makes everything else you do in ham radio better. So it's certainly worth doing. Operating awards encourage people to get on bands they might not have gotten on, to explore the propagation, learn more about it just by being on the air, as well as building their skills.

We have product testing that helps hams make more informed choices when you're going to buy instead of build, though you guys are probably builders. But, if you're going to buy something, when the League gets something to test, often as not, they'll find an issue or problem and, instead of just reporting it, they'll go back to the manufacturer and say: "Hey, this is going on" and the manufacturer will say: "Let us look at this again" and they'll do a design change or a tweak or something and fix it so that the problem goes away and by the time it hits the shelves and you shell out your hard earned money for it it's a better product than what they gave to the League to test.

As far as protecting our spectrum, we have representatives, both internal League folks based near Washington, D.C., and also a lobbying firm that helps us get our message out there. We monitor legislation, we advocate for amateur radio. We have HR1301, the Amateur Radio Parity Act right now, which I won't go into great detail about right now, but I'd encourage you to contact your elected members of Congress to, if not cosponsor it, at least back it. And use the opportunity when you talk to them to tell them a little about amateur radio and the good it does. This is not just a: "We need something" visit, it's a "Here we are; we're a resource for you. If you have questions about communications, you can talk to us, because we do this all the time. We're a resource for you. Use us." That sort of relationship can be very valuable regardless of where this individual bill goes.

As far as the increasingly hostile RF environment, we've been working with what's left of FCC enforcement regarding, for example, these grow lights that are coming in from China that are 60 dB over the Part 15 spec, which means one of them is like having 100,000 of those that met spec in your neighborhood.

We have an electromagnetic compatibility committee, representatives on ANSI C63 RFI (radio frequency interference) committee, all of whom provide for

industry and amateur cooperation before something goes to market or while something is being designed or when a problem comes up. We maintain a database of RFI issues and solutions. Ed Hare, W1RFI, (call sign is no coincidence) who runs our ARRL lab has done extensive testing on Part 15 things. His staff has also done a lot of power line testing and will go visit stuff. We have experts all over the country.

Noise radiated from power lines is all over the HF bands but is generally stronger in the lower frequency bands and declines with frequency but it goes up at least to 10 meters and even beyond. Little switching power supplies that people have are crap now and generate noise every 80 kHz or so. You can go band after band and you can see this little hump in the spectrum and you can predict where the next one is going to be.

They have technical and regulatory information. Again, the lab guys have been doing yeomen's work and there's more to be done. I'd like to see a lot more done. That's one of the issues that we working on, the whole issue of compatibility and noise and tracing down the noise. Joe Moell, K0OV, is the head of the T-hunting community in the U.S.. He's got a book on direction finding. They have competitions but that same skill and that same process can work hunting down some noise source in your neighborhood. At the ARRL Centennial Convention, I went over to the day long session they had on RFI and what they found was that, you might have a noise source that looks like it's coming from a pole but is really starting in someone else's house and going up the chain. So, often-as-not, it's not hardware. They use radar engineer's equipment to look at the noise signatures and they can get a pretty good idea of what the source is and then they can hunt it down. It's a process that you and I can't necessarily do readily but tracking down some of the simple stuff in your neighborhood you can do and you should obviously start at your own house. Turn your breakers off and run your radio by battery.

Promotion of public service is nothing new for the League. ARES (Amateur Radio Emergency Service) is about 80 years old now. A lot of our publications address areas of knowledge that are important for people. If you look at my list of talks on my web site that was mentioned earlier, a whole bunch of them relate to public service communications, whether it's how to work with emergency power sources, NVIS (near vertical incident skywave) antennas, operating skill building, all sorts of things that make you a better disaster communicator. Even though we value all of the things that amateur radio operators do, the one that's clearly the most visible in the minds of the public, is the disaster communication and so on. I mean, they don't really care how many countries you have confirmed but they do care if you saved their butt in the last fire. So

we've got to keep that going.

In the ARRL Los Angeles Section here, when I started looking at ARES, it was pretty much defunct and had been for quite a while. I mean like more than ten years. Today, we're approaching 500 members. It waxes and wanes a little but it's a much more active program than it used to be. The national traffic system with Kate Hutton is more active. Our Section manager David Greenhut, N6HD, is largely responsible for getting all that going and keeping it going. We've got some good volunteers now that are running things. ARES members show up at preparedness fairs and various public service events, and they educate the public a little bit and sometimes first responders or hospitals about what amateur radio can do.

So all that is being done by the League.

Let me turn now to **what we all can do** as individuals. You can't just say: "The League will take care of it" because we are the League and we are amateur radio. By the way, the League's membership is something like 165 or 170 thousand members, maybe something like 20% of the total number of licensees but this includes the vast majority of active hams. The ones who get their license and put it in a drawer, probably not. But the ones that are, they're members.

So what can you do? First thing - share your knowledge. You guys in particular have some real expertise and experience that you can share with other clubs, with public service groups, with school clubs, with school kids, with CERT teams, neighborhood watch teams, whatever. There's a heightened public interest in preparedness and communication in general because in every disaster pretty much communications is always an issue. No matter how sophisticated the systems, it's always an issue. So that heightened sensitivity represents an opportunity for us to be a resource, a resource of knowledge, a resource of service. So, teach, be a VE (volunteer examiner), give tech talks, mentor others who are trying to get into some area. All of that is really good and constructive.

Share your station. A lot of young folks don't have a place to put up a station anymore. If you've got something set up, invite them over and have them operate. Perhaps two-man multi-operator contesting.

Be a good neighbor. That doesn't mean just amateur radio but in general. When you move into a new neighborhood, you're kind of in a neutral bucket; they don't really know much about you yet. Sooner or later, they're going to move you into either the helpful bucket or the harmful bucket. If the first thing they know about you is that you want to put up this big tower or put stuff on the roof or string antennas across the yard, they're probably going to dump you into the harmful bucket. But, if the first thing they know about you is that that

you're there to help, you get involved in the community cleanups, in other community activities, get to know your neighbors, help them with their issues, pretty soon you're in the good-guy bucket. Now, if you ask for their support, you'll probably get it and still stay in that good-guy bucket. Marty described his experience after he bought his first house where his neighbors' wives got together and unloaded a mast for his tower from a truck for him. That's what good neighbors can do.

As I mentioned, public service is the most visible activity we have so, if you find an opportunity to support it or participate in it in some way, please do.

Be a lobbyist. I mentioned earlier contacting your elected representatives not just when it's time to ask for support for a bill, although that is a very opportune time, but anytime. You may find that one of their staffers or one of their relatives is a ham or you may find out that they know nothing about it so you can educate them a little bit. We are a huge, free public service that has saved the public's bacon time and time again, year-in year-out, decade-in, decade-out, and no matter how much your technology advances, we're still doing it. You can give them a few quotes from Craig Fugate's speech at the ARRL Centennial banquet. He's the director of FEMA. He basically said: "The more sophisticated our systems get, the more fragile they are; we will always need hams." That's from the guy who's job it is to oversee the Federal response to disasters.

Be an exemplary operator. Be courteous on the air, skillful. I know some hams that get into some net and model their behavior after whoever's running that net and often they learn bad stuff. They learn lengthy, wordy, meaningless yak and they don't learn crisp technique. They don't learn good articulation and they don't learn proper phonetics. Try to be the exemplary operator, someone they hear that they can emulate. I was at a public service fair and there was this young ham, about 14 at the time, but really energetic. We just supported him as Chatsworth citizen of the year because of his work with CERT and everything. He was helping out with handling transportation logistics with a handheld. He would always start out giving his call and then the person he wanted to talk to and he wasn't getting responses because as soon as people heard a call that wasn't theirs they tuned out. So Marty suggested that he say the other person's call sign first and he started getting answers. Little stuff like that can help.

Keep current yourself. Try something new. I found a lot of enjoyment and learning. I came up as an HF contester, I got into public service, learned some more and was able to teach others. I started getting into VHF/UHF and then microwaves and I get into the San Bernardino Microwave Society, a phenomenal club in terms of its knowledge base, in terms of encouraging people to get on, and I'm learning a lot more and having

a blast. I was just up at Frazier Peak for the 2 GHz & Up contest working four and five hundred kilometers on 2, 3, 5 & 10 GHz with a simple setup on the roof of my car. There's always something new to try. I've got to get into digital modes more. I may have to have Courtney teach me on that. So, try different bands, different groups, and each time you get involved, you're going to hook up with hams you haven't met before and you're going to expand your own base of who-do-I-know and what resources do they have. All of a sudden there's this guy and hey he's a machinist so now I can get something built or you'll be able to show them something.

All these things are ways to enhance the future of amateur radio. For over thirty years, I mostly took from amateur radio. I did the contesting. I did the DX chasing (DXCC and all that stuff). The closest thing that I came to giving was that I ran some earthquake traffic when there was an earthquake in Central America. That was good but it was very sporadic. A lot of the stuff that really needed doing I just left for somebody else. But somebody else won't always do it. So you need to step in there yourself, whether it's teaching, advocacy, or public service. Get out and do it yourself and encourage others to get involved because that's what's really going to build the future of ham radio. The best way to ensure that we have a good future is to create it by doing these things.

Q&A:

Someone (Bob WA9JIB? - I couldn't tell over the phone) mentioned that on an 80m net, Dennis Kidder, W6DQ, mentioned that he had just returned from a Maker's Fair. Marty replied that he had intended to bring this up. The Maker movement has been very popular around the world. The biggest Maker Fair in the country is up in San Mateo, which draws 150 to 160 thousand in paid attendance; people actually pay to come in and look at this stuff. Marty joined Dennis, W6DQ, and Wayne Yoshida, KH6WZ, last May. We set up a booth "Not your grandmother's ham radio" and we brought stuff that we made. I brought my four-band microwave rover and Wayne brought some gear and Dennis brought some of his Arduino projects that are going into his book. We talked to these kids about how much RF is involved in a lot of stuff that they do and, if you understand it better and can manage it better, your projects will come out better. You'll have more flexibility than you will as a non-licensee. So we tried to get them interested that way. We had a lot of takers. There were a lot of hams there already but we also had a lot of people who thought that this would be a good thing to do. I spoke earlier about people becoming hams in spite of the technology. These folks would come in because of it and you'd have a new generation of builders and makers. Hams were kind of the original makers as far as products go. You have a new influx of

people like that. So absolutely, that's a great fertile field. It may take a while to get them going but you have the folks like some professors at Cal Poly San Luis Obispo that have a project in one class that requires a ham license in order for students to complete the project. They have to have a ham license to be able to use the transmitters. So all of a sudden you get 40 college kids taking their license exams.

Another group is the FPE (first person video) crowd. To get the real range, you need to use the stuff that requires a ham license. You want to encourage those people to get their license because, if as sometimes happens, the plane goes errant, crashes and sets some field on fire, if they happen to have been transmitting without a license, they're liability insurance is probably not applicable anymore and they're on the hook. Which is why I understand that when you see a plane crash often you'll see a bunch of people scattering and running away. They'd rather give up their drone or whatever than face the liability for the fire that might start. That's another good area to get people interested and again, it's narrow but maybe over time you could introduce them to other aspects.

Thanks to Marty for a great talk.

After the talk, several club members took Marty to lunch at the JPL 167 cafeteria where they could continue the Q&A. [ed., I've given a bit more detail of Marty's talk than we usually include due to the high-interest nature of the content of Marty's talk. Sorry if it this was all a bit too much detail. -- Jim]

Board Meeting June 5th

By Jim Marr AA6QI

Present were: Chuck Baker†* WB6CWI, Bob Dengler† NO6B, Will Michael KC6LOK, Ian Pinkham KE6RFV, Mike Tope W4EF. On the phone or via JPLWebEx: Chris Carson†* KE6ABQ, Jim Marr†* AA6QI, Walt Mushagian† K6DNS, Jan Tarsala WB6VRN, Steve Townes†* WB4ILW.

Note: † indicates a 2015 regular member (i.e., JPL/Caltech/Retired & 2015 dues paid), and * indicates Board member. For a Board meeting quorum, the JPLARC Bylaws require a majority of the Board (four or more). We had four Board members so we **did have** a quorum.

Steve Townes opened the meeting with introductions.

Secretaries Report: Rob wasn't able to make the meeting today but gave Steve Townes information to pass on to the Board. As of June 1st, we have 43 members, of which 38 are voting members (licensed JPL/CIT/Contractor or retirees thereof) and 76% are ARRL members. New members added this month: JPL & ARRL member Nasrat Raouf K1NAR and retiree Harry Woo KN6MG.

Treasurer's Report: Chuck was not able to make the meeting today and the new Credit Union statement for May isn't available yet so numbers are from the April statement and are the same as reported in the May issue of W6VIO Calling (balance still \$4784.19).

Future guest speakers: Steve arranged for Jim Lux W6RMK to give a talk next month on FINDER since it's been in the news regarding its use in Nepal following the earthquakes there. Finder uses RF so there's some relationship to what we do. Should be an interesting talk since Jim has some ham-band-based demos that he's going to bring. Steve has also confirmed Vaughn Cable K6ZTA for the July 17th spot with a talk on DX for the beginner. Will Michael KC6LOK confirmed that he will be the guest speaker at the September 25th meeting (JEARS and other stuff, including preparation for the October Great Shakeout exercise). Steve is still working on the other slots for the rest of this year.

Field Day: Field Day 2015 is coming up Sat/Sun June 27th & 28th and will be held at the Pasadena Art Center again this year. Mike Tope W4EF has agreed to be the JPL lead for Field Day this year. Jim Marr reported that the Pasadena Radio Club (PRC) had it's first Field Day planning meeting last month, which he attended, and will have their second (and final) Field Day planning meeting next week on Tuesday June 9th at the Kaiser center on Walnut and Los Robles in Pasadena (7:15pm), which Jim is also planning to attend and will summarize the results thereof at the Friday, June 19th regular membership meeting. Last week, Jim committed us to do a CW station again, as we did last year.

The Force 12 3CS 20m/15m/10m antenna that we used on the CIT ARC trailer has been damaged. Mike Tope went over last week to look at it and found that the trailer had been moved and the bundle of antenna elements was bent pretty badly. It might be useable as is but we won't know until we get the bundle of elements unwrapped and spread out but at first glance it looked really bad.

The antenna alternatives are: Roy Gould W2UKX donated a Cushcraft A3S tribander, that looks brand new & still in the original box. That's a light antenna, Mike used to own one and may still have some parts for it. In terms of weight and performance, it's probably equivalent to the Force 12 antenna that was damaged. The other alternative is the JPLARC's ATB-34 triband antenna (that is in container 7111 down in the arroyo). It's a slightly larger predecessor to the A3S and we've used that at Field Day before. It may already have the boom setup to go on the CITARC trailer swing arm hardware for mounting it to the mast, so that's another good choice but we'd have to get that out of the JPL at some point and get it on the antenna trailer. So, Mike doesn't think that we'll have a problem fielding an antenna.

Mike is meeting with several JPLARC members at Caltech tomorrow to fully assess the damage to the antenna and trailer and will go from there as to which antenna we're going to use [ed., the work party was able to repair the Force 12 antenna]. Other than that, unless we find something else on the trailer that needs repair, we should be fine [ed., the trailer is now ready to go].

Shack Update: Chris Carson reported that a source for the 7/8" hardline has been located and he believes that the order will be placed shortly. AT&T is hoping to be able to run the cables down the hill in early-to-mid July. JPL Facilities wants us to terminate the coax and check them out within one-to-two weeks after the cables are run so that they can sign off the work order, so we'll need some work parties to get that done. Will Michael reported that he is working with the City of Pasadena for weed abatement and that they will be starting with the antenna area on the Mesa and we should wait until that is done before doing any feedline work on the Mesa.

Chris reported that JPL Facilities is also getting ready to install a couple of Ethernet lines this week or next.

Will Michael introduced Ian Pinkham KE6RFV (phone 3-2232; email ian.a.pinkham at jpl.nasa.gov) who is the new Emergency Preparedness and Response Coordinator for JPL. He will be the primary point of contact for JEARS and the JPLARC.

Jan Tarsala reported that the JPL Shack Key 18-50 works in the lock in the new shack. He requests that everyone go up and look at the interior and visualize how the equipment should be arranged in there. He pointed out that the new shack was leveled using some wooden shims that should be replaced with something that won't rot away (Chris Carson said that those are temporary and will be replaced when the shack is anchored to the concrete pad). He also pointed out that there is no DC-powered external lighting at the shack so if commercial power is lost, there won't be any light to enable folks to hook up the external generator or such. Additionally, he pointed out that the inside shelves are very narrow (we're used to having deep tables for our stations, which isn't the case for this building) so we'll need to re-think how we are going to deal with this.

Will Michael commented that there is money to deal with these things and requested that we coordinate with Ian once we decide what we want to do and have a final list of things that are needed to make it happen. The sooner the better so that Will can get the money allocated and things ordered.

Chris mentioned that taller chairs will be needed due to the height of the shelves. Steve Townes said that he and Eric Archer went up there and confirmed everything that Jan mentioned and added a few other things.

Steve Townes mentioned that there is explosives work going on in building 197 periodically during the day. Will Michael said that he spoke with David Lereva (sp?), who is the explosives person in Safety, and he cleared us completely to operate from the new shack.

Will Michael also mentioned that there is a trailer that can be moved up there for storage or workshop. Jim Marr suggested that it would be good to have that trailer up there before we need to vacate 173.

Will is also trying to find a generator for the shack. He has a couple of 20kW trailer-mounted diesel generators with 500-gallon tanks. Will said that he will have a pigtail made up to hook the generator to the new shack transfer switch.

Steve Townes again encouraged everyone to go up and look at the shack and Chris requested that we send any suggestions to the email exploder.

Publicity: JPL Public Relations sent us a request from a group in Mars, PA that wants to connect with JPL on Saturday, June 20th. Looking at how to make this possible. We may be looking for volunteers to help.

Repeater site situation: Ian is looking at returning our repeaters to Serro Negro or moving them to the City of Pasadena. Ian came from the City of La Canada and is already working the Cerro Negro possibility. Jim Marr agreed to send relevant information regarding Cerro Negro to Ian.

Way Past Time to Renew for 2015

By Jim Marr AA6QI

The JPLARC Bylaws (<http://jplarc.ampr.org/Bylaws-2014.pdf>) specifies annual membership renewals are due **by the end of January** each year.

Membership renewal consists of filling in the membership application form (<http://jplarc.ampr.org/applic.pdf>) and submitting the form along with your annual dues to our Club Secretary, Rob Smith W6GRV.

Note that the Board voted to increase the annual dues to \$20 for members but left family members at \$5 as before. This is the first dues increase since January 1991.

Recall that the liability waiver on the back of the membership application form does NOT need to be signed by active JPL or JPL Contractor employees. All others need to sign the waiver.

Also recall that newly licensed members do not pay dues for the first year of club membership (but do need to submit the membership application).

ARRL Membership:

By Jim Marr AA6QI

As an ARRL affiliated club, at least 51% of our membership must be ARRL members.

As of June 1, 2015, of our 43 CY2015 members, 33 (76%) are either Life (7) or Regular (25) ARRL members. Note that 76% of our 38 voting-eligible members (i.e., JPLARC Regular members) are also ARRL members.

While there are no requirements to maintain ARRL membership, there are some clear advantages to having ARRL membership. Some of these are:

- Receiving the monthly QST magazine and having access to all back issues electronically.
- Being able to subscribe to weekly ARRL news, propagation forecasts, and satellite ephemeris notifications.
- Being able to subscribe to the electronic monthly Amateur Radio Emergency Service (ARES) newsletter that may be of interest to members who wish to stay current on emergency communications.
- Member discounts on materials and training. For example, the ARRL Introduction to Emergency Communication Course is \$85 for non-members but only \$50 for members.
- You support ARRL, the only significant amateur radio advocacy organization in the U.S. that is fighting to protect our access to the airwaves.

Should those of you who are not already members and may wish to join, please do so through the Club rather than joining directly through ARRL. Why? If you join through the Club (new members), the Club retains \$15 of your membership fee to support Club activities. From your point of view, the amount you pay is the same either way. Even if you are a member who is just renewing, doing so through the Club nets the Club \$2, again without changing your costs at all.

To renew through the Club, see Secretary Rob Smith who will help you with the paperwork (don't worry, it's really simple!).

Thanks in advance for considering joining ARRL or for maintaining your membership.

Equipment For Sale

By Jim Marr AA6QI

The sale of the following items of surplus JPLARC equipment was approved by the quorum present at the October 24 2014 regular membership meeting. Please make your best offer to Club Treasurer Chuck Sarture at JPL. All equipment is sold as-is with a receipt from the JPLARC.

- ICOM IC-27H 25W 2m FM transceiver, asking \$40.

- Kenwood TR-9130 all-mode 25W 2m transceiver, asking \$60.

- ICOM IC-471A all-mode 70cm 25W transceiver with external PS-30 power supply, asking \$100.

- ICOM IC-471H all-mode 70cm 75W transceiver with internal power supply, asking \$150.

- ICOM AG-35 70cm mast mounted preamp, asking \$10.

- Packet Station consisting of an MFJ-8621A 2m Data Radio with crystals for 145.01 MHz & 145.09 MHz, and an AEA PK-232 MBX TNC, asking \$15 for the pair.

- RS232 to RS422 level converter, EASY model IC456A-R2, asking \$2.

Future Meetings

By Jim Marr AA6QI

All JPLARC meetings are being held on non-RDO Friday's from Noon to 1 PM in 180-703C. Upcoming talks (subject to change, as always):

Potential topics for the rest of the year include (although not all speakers are confirmed yet and always subject to change):

July 17th: DX for the Beginner, Vaughn Cable K6ZTA

August 28th: TBD.

September 25th: JEARS progress update, Will Michael KC6LOK.

October 23rd: Amateur Satellite Communications for the beginner (focus on how to get started), speaker TBD.

November 20th: HRO Burbank - gear demo, HRO's Eric Christensen K6EJC.

Advertisements:



<http://www.hamradio.com>

The Burbank HRO store may offer up to a 5% discount on some ham radio "accessories" to JPLARC members, upon presentation of a valid JPLARC membership card.